

EN I.N F.

The quarterly for BBC engineering, technical and operational staff

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BH'S 60TH ANNIVERSARY



Artist's impression of Broadcasting House c.1929, when the architects hoped to 'square off' the corner of Portland Place

BH London celebrates 60 years of broadcasting this year. Starting on page 9, Ralph Montagu pays a tribute to this important icon of Public Service Broadcasting.

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ENGINEERING

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As *Eng Inf* is an internal BBC magazine, it would be appreciated if no reference was made to it in articles, magazines, etc, published outside the BBC.

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Stories for the Winter edition should be forwarded to the editor by Friday 6th November, 1992.

Transmitter News

The following services have opened, changed or closed since our last issue:

New TV relays

Blaenllechau	Mid Glamorgan
Bramford	Suffolk
Deanston	Stirlingshire
Folkestone	Kent
Fowey	Cornwall
Kendal Fell	Cumbria
Leicester City	Leicester
Margate	Kent
Porthtowan	Cornwall
Somersham	Suffolk

Addition of Nicam Stereo

Divis (BBC2)	Belfast
Durris (BBC1)	Aberdeenshire

New FM Stations

Calne	Wiltshire
Folkestone	Kent

Radio 1 on FM

Swingate	Kent
Whitby	North Yorkshire

Radios 1 and 4 on FM

Abergavenny	Gwent
Ebbw Vale	Gwent
Eitshal	Outer Hebrides
Melvaig	Wester Ross

VERTICAL BLANKING INTERVAL

The one-line ITS

Colin Spicer describes the new one-line Insertion Test Signal.

The use made of lines in the TV vertical blanking interval (VBI) has developed over the years to include:

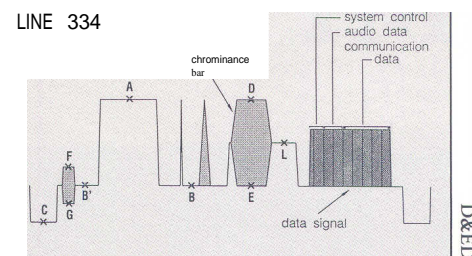
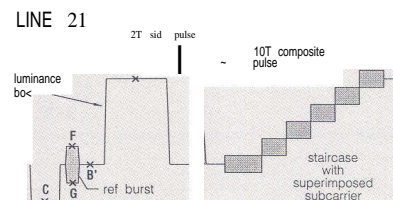
- D Insertion Test Signals (ITS)
- D Blank lines for noise measurement
- D Engineering control signals
- D Teletext

More recently, there has been a requirement to expand the teletext services, resulting in a re-appraisal of the uses made of the limited number of available lines. In consequence, changes have been made to the VBI that enable an increase in the number of lines available for teletext, whilst still keeping the necessary engineering test and control facilities.

The major change has been the development of a new single-line-per-field ITS, to replace the old UK National ITS on lines 19/332 and 20/333. The new ITS has been devised by D & ED and contains substantially all of the existing measurement waveforms, with some components arranged to alternate between fields. All of the necessary video signal measurement facilities have been maintained, along with a limited amount of engineering control data.

6/319	Local Noise
7/320	Network Noise
8/321	Teletext
9/322	
10/323	
11/324	
12/325	
13/326	
14/327	
15/328	
16/329	
17/330	
18/331	
19/332	Yet to be allocated
20/333	Yet to be allocated
21/334	Insertion Test Signal
22/335	'Local' Test Line

Current usage of VBI lines



The single line-per-field ITS

The new ITS data signal, along with spare signalling capacity within teletext, has replaced the obsolete Insertion Communication Equipment (ICE).

The new single-line ITS has been located on lines 21/334 and reduces the number of lines needed for engineering test purpose from three lines-per-field (two lines of test signal plus one ICE data line) to one line-per-field. This has released two additional lines during each vertical blanking interval for future use.

The new allocation of lines during the VBI is shown in the accompanying box.

Colin Spicer
Design Group
D&ED

Correction

In *Eng Inf* No 48, on page 15 column 3, Europe and Africa should have been referred to as ITU Region 1, and not Region 2.

ELECTRONIC GRAPHICS

The Election 92 computer system

Ewen Maclaine describes the computer system, produced by the Computer Graphics Workshop, which brought instantaneous Election graphics to our screens in April.

Coverage of the 1992 General Election offered a considerable challenge to the technical skills of the BBC. This operation was one of the most complex mounted by the BBC and involved the Television and Radio networks, the three national regions (Scotland, Wales and Northern Ireland), the English regions, the local radio stations in England, BBC World Service and Ceefax.

The General Election computer system was simply one part of this giant operation, but it constituted an essential ingredient. The system assisted the information flow which was vital to the reporting of the event. Audiences have now become accustomed to sophisticated instantaneous graphics, which respond dynamically to incoming constituency results. Without the computer system, this would not have been possible.

Gathering the results

The information flow started in the constituencies. A member of BBC staff, perhaps from the local radio station, was used as a 'result provider' in each of the 651 constituencies. Their job was to phone in the result as soon as it was

available from the returning officer. The incoming calls were taken by one of twelve input operators who went through a fixed dialogue, asking first the constituency number, then the winning party, followed by the votes for each

candidate. A checker also listened to the call to confirm that the figures had been entered correctly.

Avalanche of information

As soon as the winning party had been entered, a message fanned out across the computer system - triggering a number of events in other parts of the system:

- . the 'transaction processor' updated the database with the new winner
- . a new entry was created in the 'headline' queue
- . enquiry terminals were updated to show the new winner
- the constituency was coloured up on Peter Snow's graphics
- . an update of the Ceefax system was triggered
- . the message was sent out across the BBC's data network to Broadcasting House for Network Radio, to local radio stations around the country and to the systems in